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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,347	05/24/2000	Maria Ronay	YOR9-2000-0109	5095

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EXAMINER

PEREZ RAMOS, VANESSA

ART UNIT

PAPER NUMBER

1765

DATE MAILED: 07/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

**Office Action Summary**

Application No.

09/577,347

Applicant(s)

RONAY, MARIA

Examiner

Vanessa Perez-Ramos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Allman (U.S. 5,645,736).

In regard to claims 13-16, 18, 21 and 35-36, Allman discloses a semiconductor manufacturing method wherein a layer is polished with a solution comprising abrasive particles (col. 4, lines 17-37) and maleic acid, acrylic or methacrylic acids, which reads on Applicant's "anionic polyelectrolyte". Furthermore, Allman discloses that it is obvious to polish by contacting the surface to be polished with a polishing pad (col. 3, lines 12-15).

Allman does not disclose that this solution is used to polish specifically silicon dioxide over silicon nitride.

Allman, however, discloses that "the present compositions can be used to polish or planarize the complex composite surfaces of semiconductor wafers".

It is the Examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Allman by utilizing his polishing composition to specifically polish a silicon dioxide layer, because Allman himself provides the motivation to try the composition on different layers of semiconductor wafers.

In regard to claims 17, 24-27 and 31-34, it is the Examiner's position that the variation of process parameters such as the concentration of a component would have been obvious to one of ordinary skill in the art, with the purpose of establishing the optimum process conditions.

In regard to claims 19-20, the use of the claimed components would have been obvious to one of ordinary skill in the art, as these are well known in the art.

In regard to claims 22 and 28-29, it is the Examiner's position that, although Allman is silent about the molecular weight of the polyelectrolyte, since both Allman and Applicant are using the same polyelectrolytes, then the molecular weight of Allman's should be similar to that of Applicant's.

In regard to claims 23 and 30, Allman discloses that the use of the claimed materials as abrasives is well known in the art (col. 1, lines 25-27).

### ***Response to Arguments***

3. Applicant's arguments filed 4/3/02 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the polyelectrolyte can be used to control the polishing rate selectivity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regard to Applicant's argument that Allman does not suggest that when polishing a silicon dioxide surface in contact with a SiN surface and anionic polyelectrolyte is to be

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employed, this deficiency had been previously recognized by the Examiner. Allman discloses the general use of polyelectrolytes for etching, and although he is not specific about its use for SiO<sub>2</sub>/SiN polishing, Allman does disclose that "the present compositions can be used to polish or planarize the complex composite surfaces of semiconductor wafers". In view of this disclosure, it is the Examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Allman by utilizing his polishing composition to specifically polish a silicon dioxide layer, because Allman himself provides the motivation to try the composition on different layers of semiconductor wafers.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Perez-Ramos whose telephone number is 703-306-5510. The examiner can normally be reached on Mon-Thurs 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Vanessa Perez-Ramos  
Examiner  
Art Unit 1765

VPR  
July 18, 2002

  
**BENJAMIN L. UTECH**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**